Belief in Unconscious Repressed Memory Is Widespread:

A Comment on Brewin, Li, Ntarantana, Unsworth, and McNeilis (2019)

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Abstract

What does believing in repressed memory mean? In a recent paper in this journal, Brewin, Li, Ntarantana, Unsworth, and McNeilis (2019; Study 3) argued that when people are asked to indicate their belief in repressed memory, they actually think of *deliberate* memory suppression rather than *unconscious* repressed memory. They further argued that in contrast to belief in unconscious repressed memory, belief in deliberate memory suppression is not scientifically controversial. In this commentary, we show that they are incorrect on both counts. Although Brewin and colleagues surveyed people to indicate their belief in deliberate memory suppression, they neglected to ask their participants whether they (also) believed in unconscious repressed memory. We asked people from the general population whether they believe that traumatic experiences can be unconsciously repressed for many years and then recovered. In two studies of the general population, we found high endorsement rates [Study 1 (N = 230: 59.2% (n = 45); Study 2 (N = 79): 67.1% (n = 53)] of the belief in unconscious repressed memory. These endorsement rates did not statistically differ from endorsement rates to statements on repressed memory and deliberate memory suppression. In contrast to what Brewin et al. argue, belief in unconscious repressed memory among lay people is alive and well. Finally, we contend that Brewin et al. overstated the scientific evidence bearing on deliberate repression (suppression).

Keywords: Repressed Memory; Unconscious; Conscious; Memory Suppression

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If one asks ordinary people whether they believe in repressed memories, they will often reply "yes." But what does such an answer really mean? Does it indicate that many or most people believe that memories of traumatic experiences can be *unconsciously* blocked from awareness for many years? Or does it mean that many or most people believe that memories of traumatic experiences can be *deliberately* suppressed for many years? This seemingly minor distinction is important because such beliefs can guide therapists or clients in their decision to pursue purportedly repressed memory of abuse that they did not previously even know existed.

The Memory Wars and Beliefs in Repression

The memory wars (Crews, 1995) revolved around a debate regarding the existence of repressed memories. According to some proponents, traumatic experiences such as sexual abuse can be so horrendous that people push the memory of that trauma out of consciousness, and consequently, the traumatic experience, although still available in storage, becomes inaccessible for retrieval (Freyd, 1994; Terr, 1994; Williams, 1994). Some skeptics, however, contended that traumatic experiences are typically well-remembered, although occasionally people do not think about those experiences for a long time and require reminders to retrieve those memories (Loftus, 1994; McNally, 2005). This phenomenon of deliberate thought suppression has been extensively researched and its dynamics (e.g., ironic effects; Wenzlaff & Wegner, 2000) have been documented in numerous studies.

The debate regarding the existence of repressed memory was particularly controversial in the 1990s, which bore witness to a surge of legal cases involving patients who had allegedly recovered memories of sexual abuse in psychotherapy (e.g., Loftus & Davis, 2006). Proponents frequently asserted that sufficient evidence exists for the existence of repressed memories (e.g., Brown, Schelflin, & Whitfield, 1999). In contrast, skeptics argued that traumatic experiences are generally well-remembered and that there is no solid evidence for the repression of rich autobiographical memories (Loftus, 1994; Loftus & Ketcham, 1996).

Since the heyday of the memory wars, several research teams have asked the general public, clinicians, and professionals (e.g., police) about their beliefs concerning the existence of repressed memories. The consistent finding has been high endorsement rates for belief in repressed memories, ranging from 58% (n = 64; Dammeyer, Nightingale, & McCoy, 1997; clinical psychologists) to 94% (n = 47; Merckelbach & Wessel, 1998; laypersons) of individuals drawn from various populations and disciplines.

In response, some researchers have argued that people's affirmative answers to repressed memory items (e.g., "Traumatic experiences can be repressed for many years") might actually reflect people's belief in the *deliberate* suppression of memories (Brewin & Andrews, 2014), an assertion that has received some empirical support (e.g., Anderson & Hanslmayr, 2014). If so, people may actually not harbor strong beliefs in the controversial phenomenon of *unconscious* repressed memories, but merely believe in the concept of suppression, namely, the conscious pushing of aversive memories out of awareness.

The Brewin, Li, Ntarantana, Unsworth, and McNeilis (2019) Study

In a recent article in this journal, Brewin, Li, Ntarantana, Unsworth, and McNeilis (2019) examined this proposition empirically. In their third survey study, they provided participants

with a statement on memory repression taken from a previous study (i.e., "Traumatic experiences can be repressed for many years and then recovered;" Kassin & Barndollar, 1992) and created two alternative statements (i.e., "Traumatic experiences can never be forgotten," "Traumatic experiences can be deliberately blocked for many years and then recovered"). They found that 76% (n = 122) and 74% (n = 119) of their sample concurred with the original and the adapted statement on deliberate repression, respectively. The authors concluded that this finding suggests that participants' response to the original statement "could be based on a belief in motivated forgetting, a relatively noncontroversial process" (p. 9).

We disagree with this conclusion. In the current commentary, we will show that the design features of Brewin et al.'s (2019) study preclude strong conclusions about the belief in repressed memories. We support our argument with new data that remedies Brewin et al.'s design problems and that raises serious questions regarding their conclusions. Also, we will argue that the way Brewin and colleagues formulated their survey item on deliberate repression is inconsistent with the current state of science in this field.

Conscious versus Unconscious Repression

A serious shortcoming of Brewin et al.'s study (2019) is that they did not include a statement about *unconscious* repression. To correctly conclude that individuals' beliefs concerning repression in fact reflected conscious repression, a comparison statement on unconscious repression should have been administered as well. Such a design would permit us to know whether people would endorse the statement on unconscious repression. In addition, Brewin et al. used a within-subjects design. Accordingly, answers to the different repression statements could have affected each other, a concern that Brewin et al. acknowledged. To

address this methodological shortcoming, we used a between-subjects design to collect new data to examine beliefs in unconscious versus conscious repression.

Study 1

Method

Participants

We tested people with at least a high school education using MTurk. Participants were compensated with $0.25. In Study 3 of Brewin et al. (2019), 80 university students were tested. To examine three variants of the repression question, our aim was to test 240 participants (three groups of n = 80 each). We collected data from N = 255 (mean age = 32.21, SD = 10.01, range: 20-71, 100 females, background: high school: n = 39, Bachelor: n = 151, Master: n = 55, PhD: n = 1, Other: n = 9). The participants reported living in the United States (50.6%; n = 129), India (41.2%; n = 105), the United Kingdom (2.0%; n = 5), Canada (1.2%, n = 3), and several other countries (totaling 4.8%, n = 12; in Europe, Asia, South America), with one person (0.4%) not reporting their country. The collected sample size (N = 255) amounts to a high-powered study as a G*Power analysis with a power of 0.80, $\alpha = 0.05$, and an expected medium effect size (w = 0.30) showed that 133 participants were needed (Faul, Erdfelder, Lang, & Buchner, 2007). The study is part of a larger project on false beliefs and memories and was approved by the ethical committee of the Catholic University of Leuven (protocol number = G-2019 03 1598).

Materials

Three different online surveys were constructed based on the Brewin et al.'s survey (Study 3) using Qualtrics. Apart from demographic questions and one attention check question (I am a Robot: true, false, I do not know), six memory belief statements were used, as in Brewin et al.'s survey (e.g., eyewitnesses have more difficulty remembering violent than nonviolent

events) plus a statement on repressed memories. The six memory belief statements were, however, not analyzed for the purpose of this study. The three survey conditions differed with respect to the statement about belief in repression. One survey used the original statement (i.e., "Traumatic experiences can be repressed for many years and then recovered"; Kassin & Barndollar, 1992), one used the statement on deliberate repression used by Brewin et al. (2019)(i.e., "Traumatic experiences can be deliberately blocked for many years and then recovered"), and one used a new statement focusing on unconscious repression (i.e., "Traumatic experiences can be unconsciously repressed out for many years and then recovered"). The response options were the same as in Brewin et al. (i.e., generally true, generally false, I don't know).

Design and Procedure

A between-subjects design with three conditions was used in this study (original statement: $n = 82$, deliberate repression statement: $n = 87$, unconscious repression statement: $n = 86$). Using MTurk, people were asked to participate in a study on memory. People who participated were linked to one of the three surveys, which required approximately one-and-half minute on average to complete ($M = 88.8$ sec., $SD = 47.7$).

Results and Discussion

All data are available on the Open Science Framework: https://osf.io/jzuqe/. Twenty-five participants were excluded because they failed the attention check question. Thus, the analyses were conducted on the remaining $N = 230$. In line with Brewin et al., we also found that many individuals endorsed the statement that "Traumatic experiences can be deliberately blocked for many years and then recovered" (69.6%, $n = 55$). However, the most important finding was that 59.2% ($n = 45$) of the participants endorsed the statement on unconscious repression (see also

Table 1). This finding runs counter to Brewin et al.'s (2019) proposition that belief in genuine (unconscious) repression is not widespread in the general population.

Table 1. *Frequency of Responses to the Different Repression Statements.*

	"Traumatic experiences can be repressed for many years and then recovered"	"Traumatic experiences can be deliberately blocked for many years and then recovered"	"Traumatic experiences can be unconsciously repressed out for many years and then recovered"	"Traumatic experiences can be unconsciously repressed for many years and then recovered"*
Generally true	54 (72%)	55 (69.6%)	45 (59.2%)	53 (67.1%)
Generally false	15 (20%)	12 (15.2%)	22 (28.9%)	18 (22.8%)
I do not know	6 (8%)	12 (15.2%)	9 (11.8%)	8 (10.1%)

*This statement was only used in the second study

To analyze whether there was a relation between the answers and the three different repression statements, we conducted a Chi-square analysis. No statistically significant relation was found, $\chi^2(4) = 6.28$, $p = 0.18$, Cramer's $V = 0.12$. To examine whether this effect was more in line with the null or alternative hypothesis, we conducted a Bayesian Chi-square analysis using JASP (version 0.9). We found a Bayes Factor (BF01) of 37.96, indicating that the data were more in line with the null (no relationship) than the alternative hypothesis (relationship between different statements and answers on those questions).

Study 2

In retrospect, one potential limitation with the new unconscious repression statement was that its wording might have been imprecise. That is, in the new statement ("Traumatic experiences can be unconsciously repressed out for many years and then recovered"), the word "out" might have been confusing for some participants. To rule out this possibility, we conducted

a second study and collected an additional group of participants (using MTurk) that received the same survey including a newly worded statement (i.e., "Traumatic experiences can be unconsciously repressed for many years and then recovered") in which the word "out" was removed.

Method

Participants

Eighty-two people completed the survey, of which 79 responses were valid (57% males (n = 45), 43% females (n = 34); mean age = 33.18, SD = 10.8, ranging from 20 to 65).

Materials

The same Qualtrics survey was used as in Study 1 but now, the unconscious repression statement was reworded (i.e., "Traumatic experiences can be unconsciously repressed for many years and then recovered").

Procedure

We used MTurk to collect data in the same way as in Study 1.

Results and Discussion

We found that 67.1% (n = 53) of the participants endorsed this newly worded statement (see Table 1). Again, no statistically significant relation was found between the answers to this newly worded statement and the answers to the statements from the previous study, $\chi^2(6) = 6.47$, $p = 0.37$, Cramer's $V = 0.10$.

The current findings negate the interpretation by Brewin and colleagues that endorsement of the original memory repression statement was based on a belief in conscious repression. If this were the case, one would expect a lower endorsement rate for the unconscious repression statement. Although numerically this was the case, the difference in endorsement was neither

substantial nor statistically significant. More important, approximately 60 to approximately 70 percent of community individuals endorsed the statement that Brewin et al. omitted. Hence, contrary to Brewin et al.'s conclusions, many people still believe in the myth[1] of unconscious repression.

Deliberate Repression

Apart from the design problems of Brewin et al.'s study, these researchers argued that deliberate repression is a "noncontroversial process" (p. 9). The authors cited work on motivated forgetting (Anderson & Hanslmayr, 2014). Paradigms mentioned in that cited work and that have often been claimed to measure motivated forgetting were the Think/No Think and directed forgetting paradigm. In the Think/No Think paradigm (Anderson & Green, 2001), participants encounter several unrelated word pairs (e.g., ordeal-roach). After witnessing these stimuli, participants are presented with cue words (e.g., ordeal) and are asked to either recall the associated word (think) or not (no think). When participants are later asked to recall all response words during the presentation of cue words, no think response words are remembered less often than think response words. Moreover, a meta-analysis demonstrated that No Think words were associated with lower recall rates than words that were studied but not queried during the think/no think phase (8% reduction; Anderson & Huddleston, 2012). In the directed forgetting paradigm, participants are instructed to forget specific word lists or words. The general finding is that participants are less likely to remember these lists or words than others that are not instructed to-be-forgotten (Anderson & Hanslmayr, 2014).

[1] Following Brewin et al., we use the word "myth" when referring to the idea of unconscious repression. In doing so, however, we acknowledge that some scholars would dispute the contention that it is a scientific misconception.

We agree that work using the Think/No Think or directed forgetting paradigm can be construed as evidence that deliberate blocking of memories can sometimes make a memory harder to retrieve. However, we disagree with Brewin et al. (2019) that their survey statement on this issue is related to paradigms such as Think/No Think or directed forgetting paradigm. The statement that Brewin et al. used ("Traumatic experiences can be deliberately blocked for many years and then recovered") focused on the assertion that traumatic *experiences* can be consciously suppressed for *many years*. However, work on the Think/No Think or directed forgetting paradigm has not addressed or demonstrated that entire experiences can be blocked for many years (Otgaar et al., 2019). Rather, this work focuses mainly on the blocking of simple stimuli, such as words, for a short period, which is a far stretch from blocking entire, richly detailed autobiographical experiences for many years. Furthermore, the work of Wegner and co-workers (e.g., Wenzlaff & Wegner, 2000) suggests that the deliberate suppression of emotional memories may backfire, i.e., may produce hyperaccessibility of suppressed thoughts, a pattern that is difficult to reconcile with the idea that people may block autobiographical memories for years from consciousness. We argue that Brewin et al. have overstated the scientific evidence bearing on deliberate repression (suppression), which they present in an unclear way: momentary deliberate suppression of thoughts does exist as the extensive work of Wegner and associates show, but that it may render emotional memories inaccessible for years is not backed up by empirical evidence.

Concluding Remarks

It is important to examine whether certain myths about memory (e.g., memory works as a video camera) are widely believed, as some authors (e.g., Lilienfeld, Lynn, Ruscio, & Beyerstein, 2009; Simons & Chabris, 2011) have contended. Brewin et al. (2019) make the

useful observation that certain memory myths may not be as widespread as what was initially thought, or at least may be more nuanced than some have assumed. However, we have shown that this conclusion does not apply to the myth regarding repressed memory. We have demonstrated that many or most people continue to believe in controversial topics such as unconscious and even conscious repression (suppression). The fact that laypeople hold such pervasive beliefs in unconscious memory repression raises legitimate concerns for both clinical practice and legal proceedings in which central "evidence" is based on allegations from the "recovery" of so-called repressed memories. For example, embracing such incorrect beliefs might lead clinicians to suggestively seek and elicit repressed memories in patients potentially contributing to (false) recovered memories (McNally, 2012). It is because of these widely held naïve beliefs, ones that do not accord with scientific evidence about memory, that it is still important to seek testimony from memory experts in cases involving "recovered" memories (e.g., see Howe, Knott, & Conway, 2018).

Our findings suggest that the belief in the scientifically controversial phenomenon of repressed memory remains widespread among the general public. Why is that the case? Baxendale (2004) provides at least part of the answer: Numerous films from all around the world have provided fictional examples of unconsciously repressed memories and how they can be fully recovered. These examples, after all, make for emotionally compelling and perhaps ironically, highly memorable, stories. According to Baxendale, the stereotypical and universal memory myths in these movies both misinform and reflect public opinion. Indeed, in Hollywood movies, television shows, and popular novels, fictional and dramatic depictions of unconscious repression abound (Dieguez & Annoni, 2013). Instead of merely asking whether people believe in repressed memories, we argue that it will be important to examine whether and how belief in

unconscious repressed memory is related to exposure to repressed memories in movies, television shows, and novels.

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